CLAIMS

1. A semiconductor apparatus comprising:

a semiconductor chip including a power semiconductor device constructed by using a wide band gap semiconductor;

a base material made of an electrically conductive material and connected to a part of a face of said semiconductor chip;

a heat conducting member in contact with a part of the face of said semiconductor chip; and

an encapsulating material for encapsulating said semiconductor chip and said heat conducting member,

wherein a part of said base material is extruded outside said encapsulating material and works as an external connection terminal.

2. The semiconductor apparatus of Claim 1,

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wherein said power semiconductor device has a region where a current passes at a current density of 50 A/cm² or more.

- 3. The semiconductor apparatus of Claim 1 or 2, wherein said encapsulating material is made of a resin or glass, and said heat conducting member is exposed from said encapsulating material.
- The semiconductor apparatus of Claim 3, further comprising a radiation fin
 that is in contact with said heat conducting member and is extruded outside said encapsulating material.
 - 5. The semiconductor apparatus of Claim 1 or 2, further comprising a film for covering said encapsulating material.
- 6. The semiconductor apparatus of Claim 5, further comprising a radiation fin opposing said heat conducting member with said film sandwiched therebetween.

7. The semiconductor apparatus of any of Claims 1 through 6,

wherein a first intermediate member made of an electrically conductive material and a second intermediate member made of a material having lower heat conductivity than said first intermediate member are provided between said base material and said semiconductor chip.

8. The semiconductor apparatus of any of Claims 1 through 7,

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- wherein a contact area between said semiconductor chip and said base material is smaller than a half of an area of said semiconductor chip.
 - 9. The semiconductor apparatus of any of Claims 1 through 8, wherein said power semiconductor device is a vertical element, and

said semiconductor apparatus further comprises another semiconductor chip that is stacked on said semiconductor chip and a part of which is connected to said base material.

- 10. The semiconductor apparatus of any of Claims 1 through 9,
- wherein said external connection terminal of said base material is constructed to be mounted on a print wiring board.
 - 11. The semiconductor apparatus of any of Claims 1 through 10, wherein said wide band gap semiconductor is SiC.
 - 12. A semiconductor apparatus comprising:
- a semiconductor chip including a power semiconductor device constructed by using a wide band gap semiconductor;
 - a base material made of an electrically conductive material and connected to a part of a face of said semiconductor chip;
- a heat conducting member in contact with a part of the face of said semiconductor chip;

a vessel in contact with said heat conducting member and encapsulating said semiconductor chip, said base material and said heat conducting member; and

an external connection terminal electrically connected to said base material and extruded from said vessel.

13. The semiconductor apparatus of Claim 12,

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wherein a region around said semiconductor chip, said base material and said heat conducting member within said vessel is filled with glass, a resin, an inert gas or a gas reduced in pressure.

14. The semiconductor apparatus of Claim 12 or 13, further comprising a radiation fin opposing said heat conducting member with a part of said vessel sandwiched therebetween.